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ABSTRACT

The Colorado Migrant Education Program and the Colorado Migrant Health Program (CMHP) together plan and implement a comprehensive health program for migrant summer school students on a yearly basis. This report provides statistical data about the health status of the migrant students and the health services provided to them during the 1990 program. Section I highlights the program and notes a general trend toward improvement in the overall health status of the migrant children. The health program overview in Section II describes the 1,826 predominately Hispanic students who received services, and the health providers who served them. Section III explains the health status of the students and details the screening procedures used. Routine evaluations included: (1) height and weight; (2) hematocrit; (3) audiometry; (4) vision testing; (5) screening for scoliosis; (6) dental examination; (7) PPD skin test for tuberculosis; and (8) immunization status. Illnesses occurring during the program are listed, categorized, and tallied. The health education program described in Section IV includes a Migrant Summer School, Health Education Curriculum, group and classroom sessions, staff inservices, and family night presentations. The budget, sources of revenue, and allocation of funds are described in Section V. The final section lists the target areas to be addressed in planning the 1991 program. The appendix is composed of various tables which outline, by the 15 school sites, the incidence and follow-up of specific medical and dental problems. The report contains numerous tables and figures. (KS)

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FIELD REPORT

MIGRANT EDUCATION HEALTH PROGRAM

- 1990 -

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INTRODUCTION

1990 marks the 18th consecutive year that the Colorado Migrant Education Program and the Colorado Migrant Health Program (CMHP) have collaborated in the planning and implementation of a comprehensive health program for migrant summer school students. This collaboration has continually increased over the past several years as both programs have grown to appreciate that regardless of administrative affiliation, funding resources, or individual organizational objectives, both programs share a common mission: to participate in enhancing the physical, mental, social and economic well-being of migrant farmworkers. Both programs acknowledge that this mission requires a major focus on migrant children.

Not only do children of migrant farmworkers face the typical diseases and health problems of childhood but, in addition, they confront numerous health problems and risks associated with their migratory lifestyle and the environmental hazards associated with agricultural work. They also face numerous social, cultural and linguistic barriers which often preclude their ability to access regular, comprehensive health care. It is clear that maximum educational achievement may be hindered by undiagnosed and untreated health problems. For example, the young migrant child with undiagnosed hearing or vision problems will obviously experience difficulty in learning, regardless of the quality of the educational program presented. Other less obvious but equally significant undetected health conditions such as anemia, respiratory infections, otitis media and dental disease also contribute to listlessness and distraction due to pain which may inhibit the education process. Although it is axiomatic that children in poor health will not achieve their full educational potential, it is also critically important to view the development of healthful lifestyles and health practices as essential elements of each child's educational experience.

Working on a contractual arrangement with the Colorado Migrant Education Program, the Colorado Migrant Health Program recruits, hires, trains, and supervises seasonal health practitioners in summer migrant education schools throughout the state. The health services provided include: comprehensive health screening of all migrant school enrollees, treatment and follow-up for identified health problems, preventive dental services, and health education. Emphasis is placed on involving the family in health care. Therefore, health education and counseling takes place not only at the school site but also during school family nights and in homes. School health providers work closely with local Migrant Health staff and local providers to assure quality, comprehensive health care for migrant students. Local migrant education staff and local health providers assure that any needed follow up is provided after the summer program ends.

Mutually supportive goals and the acknowledgment of the relationship between good health and the migrant child's ability to fully participate in the educational process set the stage for the 1990 Migrant Education Health Program.

The following sections detail the specific activities of the 1990 Migrant Education Health Program. This report is intended to meet the following general objectives:

1. To provide accountability to the Migrant Education Program that the health services provided were within the scope and financial estimates of the 1990 contractual agreement;

2. To share with Migrant Education staff and parents information gained about the relative health status and needs of migrant children in Colorado;

3. To provide an information base which will initiate planning efforts directed toward the 1991 Migrant Education Health Program.

SECTION I

HIGHLIGHTS OF 1990 PROGRAM

Significant health findings, changes, and highlights of the 1990 program are noted below. It is rewarding to note that over the years, there has been a general trend toward improvement in the overall health status of these children. Nonetheless, most of their health indices lag behind those for Colorado school children in general, reflecting the greater need for health services that continues to exist for migrant children.

HEALTH STATUS AND SERVICES

Vision

Although the policy for vision testing remained unchanged in 1990 (all enrolled migrant education students are tested), the policy for securing eyeglasses changed this year. In past years, the health program paid for eye exams and eyeglasses for students who needed them. Parents have been asked to contribute $30, but if they are unable to pay, the health program will pick up the the cost of the glasses. Nurses spent a significant amount of time seeking community donations for glasses and asking providers for discounts. However, even with discounts, the average cost for placing a student in eyeglasses is about $130. Given that approximately 90-100 students every summer need glasses, this has represented a significant cost to the health program. After consulting with state and local migrant education staff, the CMHP policy for providing eyeglasses to migrant education students was changed in 1990. This year, the health program did not pay for eyeglasses for any settled out, status 3 migrant student. If a status 3 student was found to have an abnormal vision screen, the nurse referred the student to the local migrant education staff. The migrant education staff was then responsible for working with the student, family, and community to arrange for eye exams and eyeglasses as needed.

The prevalence of abnormal vision among migrant school children was 8.1% in 1990. This compares to a 8.4% abnormal incidence rate in 1989. The 1990 rate still remains higher than the 6.2% prevalence observed among all Colorado school children during 1989-90. This difference is most likely due to the higher proportion of Colorado school children who have already had refractive errors identified and corrected with glasses. Eighty one children received new glasses, and four children had frames fixed during the 1990 summer program.

Hearing

In 1990, 4.1% of migrant children attending the summer school program were determined to have abnormal hearing. This is a slight decrease from the 4.6% incidence rate observed in 1989. However, this is still almost double the incidence of 2.1% observed for all Colorado school children in 1989-90. The reasons for this increased prevalence among migrant children cannot be pinpointed with certainty, but it is likely that important contributing factors are: 1) due to poor access to health care acute ear infections are more likely to escape detection and may go on to develop complications including hearing loss, 2) crowded and unsanitary living conditions which facilitate transmission of communicable illnesses which in turn cause secondary hearing disorders, and 3) inability to afford interventions such as hearing aids or medical treatment.

Dental

The rate of children needing dental services was 60.5% in 1990. This rate has remained fairly constant over the past few years (59.3% in 1989, 59.5% in 1988, 60% in 1987). It is, however, significant to note that the percentage of students needing emergency care has decreased dramatically, even within the last five years. In 1984, for example, the number of students needing emergency dental care was 10.5%. Six years later in 1990, only 3% of the students needed emergency dental care. While it is impossible to draw conclusions because only 30-40% of the children return each year, there can be no doubt that the dental preventive program, including the strong dental sealant component, can be credited with this change.

Anemia

As in previous years, all students received a hematocrit test for anemia. In 1990, 2.3% of the students were found to be anemic. This compares to a 3.9% prevalence in 1989. Of the 41 students who were anemic, 100% of them received iron supplementation, and the nurse provided nutritional counseling to the family.

Hematocrit levels were rechecked on 33 students, and 31 of these students were no longer anemic. (Note: Hematocrit levels are rechecked after about four weeks of iron supplementation. Therefore, some students either moved or had not been on iron therapy long enough to have their hematocrit levels rechecked prior to the end of the summer program.) For those students whose hematocrit level did not improve after at least four weeks of iron supplementation, a referral to a medical provider for further follow up was made.

Height and Weight

All students had their height and weight measurements taken and recorded on the Health Data Entry Form.

Nurses identified 21 students with obesity, two underweight students, and two students with bulemia. These students received one or more of the following interventions: one on one counseling, group counseling/support, family counseling.

TB Skin Testing

It is remarkable that the percentage of positive skin tests has increased sharply since 1987. In 1987, 2.3% of the students had a positive skin test. This number decreased to 1.3% in 1988. In 1989, the percentage rose significantly to 6.3% and the rising trend continued in 1990 to a rate of 7.4%. This increase seems to reflect the nationwide trend toward an increased number of tuberculosis cases. Follow up care was provided to 100% of the children who had a positive skin test.

The 7.4% rate observed in migrant students compares to a 4.4% rate in all Colorado school children during 1989-90. Skin tests are not routinely done for Colorado school children, however, the increased rate among migrant students substantiates the need to continue surveillance for this important public health threat among this high-risk population.

Immunization Status

The nurses placed in the Migrant Education schools evaluated the immunization records of all children not in Colorado schools during the regular school year. This policy avoids duplication of the monitoring of immunization status required by the Colorado School Immunization Law. In 1990, 1,116 immunization records were evaluated and 183 children were given 369 needed immunizations.

Handicapped Children

Several migrant school children were identified as having handicapping conditions. Twenty new referrals were made to the Handicapped Children's Program for such conditions as ear problems (including eardrum perforation), eye disorders (including strabismus), dental anomalies, developmental delay, heart murmur, scoliosis, neurologic problems, short limb, pectus excavatum, hemangioma, and webbed digits.

DECREASE IN NURSING AND DENTAL HYGIENE SERVICES IN PUEBLO AND GRAND JUNCTION

In 1990, the CMHP received $10,000 less from the Migrant Education Program for the provision of summer health services. This reduction, coupled with the fact that the Migrant Education Program contributes only about 27% toward the cost of running the summer health program for migrant students, led to decreased services in the 1990 program.

This reduction was made in three main areas. The change in eyeglass policy was described earlier in this section. The other changes took place in the Pueblo and Grand Junction summer migrant education school programs. In both schools, dental hygiene and nursing staff reductions were made. In both schools a nurse was placed on site only four hours per week (compared to 20 hours per week the previous year). Also, there were no dental hygienists placed in either school this year. (A full time hygienist was placed at each school in 1989.)

This reduction in staffing impacted the programs in the following ways:

1. In both schools, health screening was provided for all the children. However, coordinating and providing follow up care for children who had abnormal screening results was compromised. Nurses had to rely much more strongly on migrant education staff to assess health problems when the nurse was not on site, arrange referrals as needed, transport students, and follow up with parents. This meant recruiters and records clerks provided many services normally done by the health team, taking away their time from recruiting, record keeping, and other projects.

   The dental resident in Grand Junction and the dental student in Pueblo provided some needed dental treatment and some dental prophylaxses. However, because there were not dental hygienists to coordinate dental care or provide the prophylaxes, dental services were limited and compromised.

2. No classroom education was provided at either school, losing this significant aspect of health promotion/disease prevention.

It is hoped that additional funds can be obtained from the Migrant Education Program for 1991 so that some services cut in 1990 can be restored.

HEALTH PROFESSIONAL STUDENTS

In 1990, a total of 30 health professional students and residents participated in the Migrant Education Program. Those selected to participate in the program are highly motivated, independent, culturally sensitive, and have demonstrated a high level of competence in their academic and clinical training. Because of their skills and enthusiasm, these students make valuable contributions to health care delivery and health education. In 1990, 11 nursing students from the University of Colorado and one student from Metropolitan State College were placed in Migrant Education schools throughout the state. In addition, 18 dental students or dental residents provided dental treatment to migrant education students. These dental students or residents came from the University of Colorado, Northwestern University, and the University of Texas Health Sciences Center at San Antonio.

Students evaluating their community health experience with the Migrant Education Health Program see it as a valuable learning experience. Many students become providers in community or rural health care settings after graduation.

HEALTH EDUCATION

Teaching migrant children and their families about health and assisting them to develop healthful lifestyles is a high priority for the Migrant Education Health Program. In 1990, summer health team members held a total of 274 health education/promotion sessions that involved 6,457 people. These sessions involved classroom education and small group sessions, family night presentations, and staff inservices. It is gratifying that the number of participants increased from 1989 - an additional 986 attendees received health education services this year.

A detailed description of the health education activities is reported in the "Health Education" section of this report.

HIGH RISK INTERVENTION UNIT - COLORADO DEPARTMENT OF EDUCATION

The High Risk Intervention Unit at the Colorado Department of Education contacted the CMHP in the spring of 1990 with an interest in exploring how their unit might become involved with the migrant population. The Unit is concerned with providing students and parents information on such topics as refusal skills, AIDS, teenage pregnancy, and substance abuse.

CMHP helped arrange site visits to the Ft. Lupton and LaSalle summer migrant education program. High Risk staff had the opportunity to observe classes, talk with teaching and health staff, and interact with parents at family night.

Follow up from the site visits and an additional meeting with the Weld County PAC has yielded a plan for a pilot parent support group in Weld County to be conducted during 1991.

ADOLESCENTS

In a continuing effort to reach the migrant adolescent population, the CMHP again this year placed emphasis on the migrant education adolescent night school programs.

In the large Platteville program, a nurse practitioner, nursing student, and three dental hygienists provided comprehensive health services to 129 adolescents. Additional dental hygiene staff at the school resulted in an increase in preventive dental services to 76% in 1990 (compared to 63% in 1989). Also, because of the increased dental hygiene staff, more dental care coordination was able to be done with a significant leap in the number of adolescents who received dental treatment (56% received treatment in 1990 compared to 32% in 1989).

In addition to providing screening services and assessing acute and chronic health needs, the nurse and nursing student focused on health promotion/disease prevention activities. Twenty seven classroom education sessions were held and included the following topics: refusal skills, drug use, alcohol use, smoking, teenage pregnancy, suicide, AIDS, sexually transmitted diseases, first aid, and career education. Also, the nursing staff worked with one class to write a skit on relating and talking with parents. The students performed this skit on famiy night with great response from other students, parents, and educational staff.

Also, a risk assessment tool developed by the nurse practitioner was completed by 60 students. The students were asked to respond to 15 questions dealing with issues of relationships (friends, opposite sex, parents), substance use, stress, and career goals. After the student completed the questions, the nursing staff reviewed the questions with the students, assessing risk and making interventions as needed. It is significant to note that because of the assessment strategies used, interventions were made with students on the following significant high risk issues: suicide, bulemia, sexual abuse, alcohol/drug abuse, and STD/AIDS risk.

In addition to the Platteville program, health services were provided during the evening adolescent program in Alamosa and some nursing services were provided to the Longmont teens who received tutoring in the labor camps where they were living.

SECTION II
HEALTH PROGRAM OVERVIEW

Service Population Profile

A total of 1,826 migrant children in migrant education schools received one or more services from the Colorado Migrant Health Program during the 1990 summer Migrant Education Program. (This is an increase from the 1,656 migrant education students who received services in 1989.) In addition to the migrant education students, 99 children received services through daycare programs operating in conjunction with Migrant Education Schools in Fort Collins and Alamosa. Figure I shows the number of migrant education students (daycare children not included) within the different age groups as well as the proportion of male to female students. Students ranged in age from three years old to 21 years old with the majority (77%) between the ages of five and 12. Of the 1,826 students, 50.1% were female and 49.9% were male.

Migrant student enrollees were predominately Hispanic (98.6%) with the remaining students being Anglo, Indian, Black, and "Other". Table I reflects the ethnic status.

FIGURE I

AGE AND SEX OF
MIGRANT EDUCATION ENROLLEES
-1990-

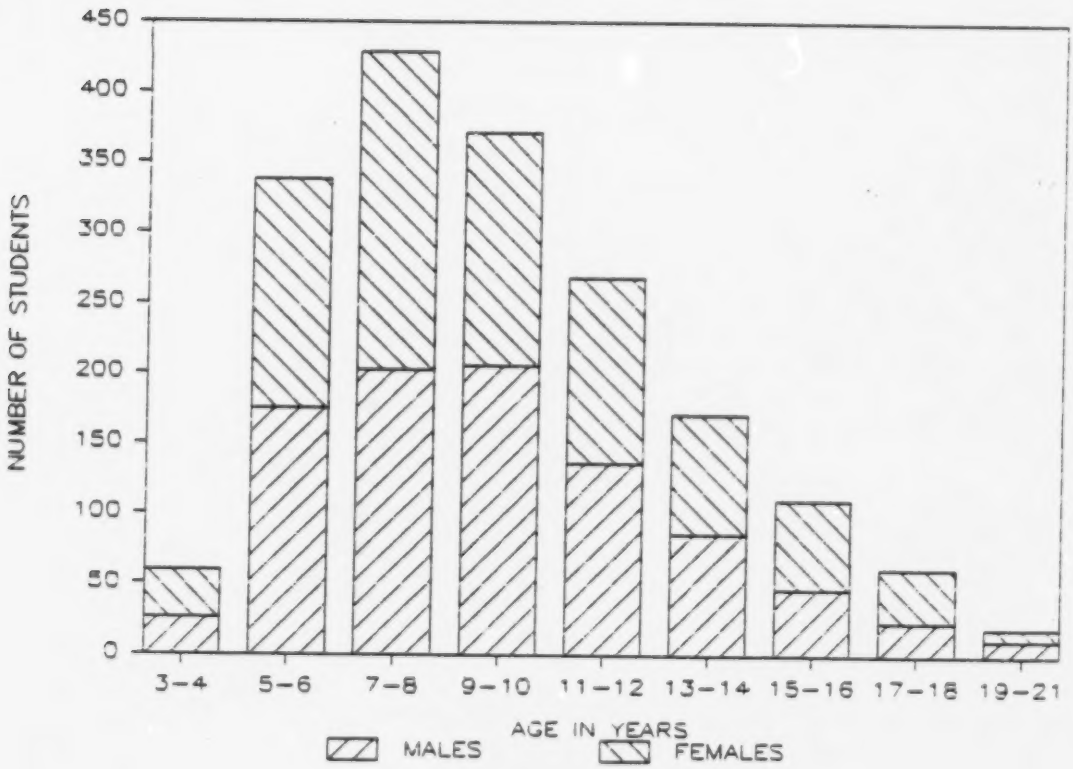


TABLE I

ETHNIC STATUS OF
MIGRANT EDUCATION ENROLLEES
-1990-

ETHNICITY	FREQUENCY	PERCENT
HISPANIC	1,800	98.6%
ANGLO	11	0.6
INDIAN	10	0.5
BLACK	3	0.2
OTHER	2	0.1
TOTAL	1,826	100 %

Service Providers

In order to provide a full continuum of health care, two categories of health providers are required: 1) nearly 200 local providers (physicians, dentists, pharmacists, allied health providers) either in private practice or working with community-based care organizations, and 2) seasonal-hire staff who are recruited nationwide for the duration of the Migrant Education summer schools. During 1990, 67 health providers were hired on this basis. This included:

- 17 Registered Nurses
- 12 Nursing Students
- 20 Dental Hygienists
- 18 Dental Students or Recent Dental School Graduates

These health providers worked as a multidisciplinary team and were deployed to 13 Migrant Education summer school sites. The placement of these providers is displayed in Table II as Full Time Equivalents. Also, migrant students attending the summer school progrma in Burlington received some health services from the local county nurse.

In addition, 10 health aides were employed by local migrant education programs. Health aides worked either full or part time and mainly assisted the health teams with transportation. The number of health aides has decreased significantly over the years (there were 17 in 1988). When there were more health aides, the aides were able to offer great assistance to the health team with health screening, health records, and translation on home visits. With fewer aides, the summer health team must provide these services without assistance, decreasing their efficiency and taking away from other direct student services. Also, migrant education staff (primarily recruiters and records clerks) in many areas have compensated for the decreased number of health aides and have provided transportation and translation assistance to the health teams. Although this has benefited the health teams, it has meant extra duties for an already stretched migrant education staff.

Orientation is an important part of training health providers for the services they will provide. Summer health providers spent two and one half days of intensive training with the Migrant Health Program and approximately two days orientating to the local area (meeting migrant education staff and local health providers, finding out where migrants live and work, reviewing health records, etc.). This allows summer staff to begin providing high quality health care from the first day of the school program.

TABLE II

DEPLOYMENT OF SEASONAL HEALTH PROVIDERS
SUMMER MIGRANT EDUCATION SCHOOL
(FULL-TIME EQUIVALENTS)
-1990-

Site	Nurses	Nursing Students	Dental Hygienists	Dental Students
Fort Lupton	1.5	2	2.5	2
Brighton	1	2	2	1.5
Longmont	1	1	2	3
Fort Collins	1	1	2	1
LaSalle	2	1	2	2
Platteville	1	1	2.5	0.5
Fort Morgan	1	1	1	1
Lamar	1	0	1	0
Rocky Ford	1.5	1	2	2
Pueblo	0.1	0	0	1
Alamosa	2	1	2	2
Olathe	1	1	1	1
Grand Junction	0.1	0	0	1
TOTAL FULL-TIME EQUIVALENTS	14.2	12	20	18

Health Encounters

During the summer of 1990, 1,826 migrant education enrollees had a total of 11,055 encounters with health personnel from the Colorado Migrant Health Program. This represents an average of seven encounters per student.

A health encounter is defined as a face-to-face interaction between a health provider and a student (or the student's parent) which requires independent judgment based upon the health provider's training and is of sufficient importance to be recorded in the patient's chart. Health care encounters are divided into the following categories:

1. New and repeat medical encounters

2. New and repeat dental encounters

"New" medical and dental encounters are those that happen during the first interaction with the student. "Repeat" encounters are those that happen subsequent to the initial (new) contact and are either follow-up to the condition identified during the initial contact or new health conditions which have arisen after the first contact.

The following table presents the number of encounters by service category:

TABLE III

NUMBER OF PATIENT ENCOUNTERS
-1990-

SERVICE CATEGORY	CATEGORY FREQUENCY	TOTAL	PERCENT OF TOTAL
MEDICAL		5,077	45.9 %
New	1,826		
Repeat	3,251		
DENTAL		5,978	54.1
New	1,789		
Repeat	4,189		
TOTAL	11,055	11,055	100 %

It is also of interest to note the sites at which these services were delivered to migrant children. The following table reflects this information:

TABLE IV

PATIENT ENCOUNTERS
BY SITE OF SERVICE
-1990-

SERVICE SITE	FREQUENCY	PERCENT
MIGRANT EDUCATION DAY SCHOOL	7,192	65.1 %
MIGRANT EDUCATION NIGHT SCHOOL	720	6.5
DENTAL OFFICE	2,492	22.5
MEDICAL OFFICE *	283	2.5
STUDENT'S HOMES	243	2.2
CMHP CLINIC	32	0.3
HOSPITAL	51	0.5
HEALTH DEPARTMENT	42	0.4
TOTAL	11,055	100 %

* Includes offices of physicians, osteopaths, optometrists, opthalmologists, audiologists, etc.

As is evident from the preceding table, 71.6% of all encounters occurred at a school site. Offices of medical and dental practitioners were the next most frequent sites of services (25.0%) followed by services delivered in the home (2.2%).

It is of additional interest to examine where services were delivered by individual health practitioners. The following tables reflect the sites of service delivery by nursing and dental hygiene personnel:

TABLE V

NURSING* ENCOUNTERS BY
SERVICE DELIVERY SITES
-1990-

SERVICE SITE	FREQUENCY	PERCENT
MIGRANT EDUCATION DAY SCHOOL	3,893	84.1 %
MIGRANT EDUCATION NIGHT SCHOOL	440	9.5
HOME	238	5.1
CMHP CLINIC	5	0.1
OTHER**	55	1.2
TOTAL	4,631	100 %

NOTES: *Includes Migrant Education nurses, CMHP nurses, nursing students and health aides.

**Includes physicians' offices, hospitals, and health departments.

TABLE VI

DENTAL HYGIENE ENCOUNTERS
BY SERVICE DELIVERY SITES
-1990-

SERVICE SITE	FREQUENCY	PERCENT
MIGRANT EDUCATION DAY SCHOOL	3,207	90.5 %
MIGRANT EDUCATION NIGHT SCHOOL	278	7.8
HOME	5	0.2
DENTAL OFFICE	53	1.5
TOTAL	3,543	100 %

NOTE: This table does not reflect the encounters by dentists and dental students.

SECTION III

HEALTH STATUS OF MIGRANT EDUCATION STUDENTS

Migrant children experience the same kinds of illnesses that are common to all children. However, it is generally observed that, for a variety of reasons, their overall health status is poorer than that of non-migrant children in Colorado and in the United States. Poverty, limited education, linguistic differences, and other factors interfere with access to both preventive health care (including immunizations, identification of impaired hearing, vision, or development, etc.) and health care for acute and chronic illnesses. As a result, a significant amount of preventable illness occurs, with dental disease being primary among these. Other disease states that are not promptly identified may be allowed to progress and become more serious or even develop irreversible complications. Crowded housing and poor sanitation conditions also contribute to an excess of communicable diseases, ranging from relatively benign respiratory infections to tuberculosis. In addition, injuries are common among older migrant children who work in the fields as well as among their younger siblings who may have no safe places in which to play.

In order to promptly identify the health problems found in these children, summer health teams review student health history information that is collected by migrant education recruiters. This history provides information about the student's health and will indicate if the parent has any concerns related to the child's health or development.

In addition, students are given routine evaluation in the following areas during the summer school program:

1. height and weight, in order to record and track growth as indicated
2. hematocrit, in order to identify anemia
3. audiometry, in order to identify abnormal hearing
4. vision testing
5. screening for scoliosis (for 11-year old children)
6. dental examination
7. PPD skin test for tuberculosis (as indicated)
8. immunization status to identify needed immunizations

In order to identify the presence of these conditions as soon as possible (so that intervention may be offered while the children are available for services), all health team members participate in screening clinics conducted during the first week that children attend migrant summer schools. Screening is offered thereafter on a weekly basis to identify health problems in students who begin attending at a later date. The following is a summary of the screening procedures offered:

Height and weight measurements are taken on all migrant school children. Height and weight values are recorded on the student's health data entry form. Should a student have a significant medical problem related to overweight, underweight or short stature, a growth chart will be plotted and a nursing and/or medical intervention will be made.

Hematocrits are done to assess the possibility of iron deficiency anemia. Children are identified as being anemic if their hematocrit reading is below the indicated level:

Age		Hematocrit
6 mo.-2 years		< 33
3 - 4 years		< 34
5 - 9 years		< 35
10-14 years		< 36
15-18 years	male	< 39
	female	< 36
18 years +	male	< 42
	female	< 36

For those students identified as being anemic, the nurse makes a home visit to assess the child's medical history, discuss diet intervention, and give instructions for taking iron supplementation. Children with abnormal hematocrits are rescreened at intervals during the summer to assess whether or not the anemia has been resolved or improved.

Hearing screening is conducted on all testable students (some students may be too young to understand the screening instructions and are therefore untestable). A child must hear the tone in both ears at the following levels in order to pass the hearing screening:

4000 Hz at 25 dB
2000 Hz at 20 dB
1000 Hz at 20 dB
500 Hz at 25 dB

If a child fails the hearing screening, he is rescreened on another day unless there is evidence to suggest the presence of otitis media. (If there is such evidence, the nurse will immediately refer the child to a physician and rescreen the child's hearing after resolution of the infection.) Children who fail screening twice are referred to a local audiologist for further diagnostic evaluation.

Vision screening is done on all testable children using a Snellen "E" chart. The following criteria constitute a failed vision screen:

3-4 year old:	if 20/60 or worse either eye
5 year old:	if 20/50 or worse either eye
6 years and older:	if 20/40 or worse either eye

If a child fails the vision screening, he is retested another day. If he fails a second time, a referral to an optometrist or opthalmologist is made. Migrant education nurses arrange for referrals and follow up for active-migrant students. Local migrant education staff arrange for referrals and follow up for settled out or seasonal migrant students.

Scoliosis screening is done on all 11 year old children by the Migrant Education Nurse. This screening procedure is done to detect any lateral curvature of the spine which, if present, may worsen during the adolescent growth spurt. Abnormals are rescreened, and, if still abnormal, are referred to a medical provider for evaluation and possible x-ray. If there is need for immediate intervention, the child is referred to the Handicapped Children's Program.

Dental screening consists of an examination of the teeth and oral structures. The purpose of this screening is to identify those children in need of professional dental treatment.

Dental screening is done by the dental hygienist or as a cooperative effort with the dental student or resident. At the time of screening, the children are prioritized according to the severity of need. Children with the most serious treatment needs are referred first for care, with less serious conditions being referred as time and financial resources allow. Because dental problems are related in part to poor nutrition and oral hygiene practices, the need for home visits for parental counseling concerning rampant or excessive caries as well as bottle mouth caries is also determined.

PPD (Purified Protein Derivative) testing is a skin test which determines exposure to the tuberculosis bacillus. This screening procedure is arranged by or performed by the Migrant Education Nurse on students who do not attend school in Colorado during the regular school year and who have never been tested, or who are kindergartners and seventh graders who have not been tested within the past three years. The skin test is read 48 to 72 hours later. Children with positive tests are referred to local health departments or county nurses for chest x-rays and other follow up. This procedure requries signed parental consent.

Immunization status is assessed by the migrant education nurse for all students who did not attend school in Colorado during the regular school year. (Students who attended Colorado schools during the regular school year will have had their immunization records assessed by the school nurse.) For those students determined to need immunizations, the migrant education nurse obtains informed written consent from the parents. Immunizations are either given to the student at the summer migrant education school or the students are taken to the local public health department or nursing service to obtain the needed immunizations.

The following table reflects the "abnormal" findings identified through the screening process in 1990:

TABLE VII

MIGRANT EDUCATION
SCREENING OUTCOMES
-1990-

SCREENING PROCEDURE	NUMBER SCREENED	NUMBER ABNORMALS	PERCENT ABNORMAL
HEMATOCRIT	1,793	41	2.3 %
HEARING	1,810	74	4.1
SCOLIOSIS	393	19	4.8
VISION	1,812	147	8.1
TB SKIN TESTS	257	19	7.4
DENTAL	1,789	1,083	60.5

Note: A site specific summary of screening outcomes and follow-up is included in the appendix.

Once students are screened, dental hygienists provide case management to assure students receive dental treatment. In addition, hygienists provide cleanings and fluoride application.

Nurses provide referrals and case management for students with abnormal screening results. In addition, nurses provide day-to-day nursing care and case management for acute and chronic health problems.

Diagnostic Data

For all significant encounters between health care providers and migrant education students, diagnostic information is recorded, coded, and tabulated so that the incidence of illness episodes experienced by these children during the six to seven weeks of the summer school program can be analyzed. This diagnostic data provides important information regarding the health status and health needs of this population.

Table VIII shows the total incidence during the 1990 Migrant Education summer school program of illness episodes in terms of diagnostic categories. (These figures represent new illnesses only, not the total number of encounters for illnesses).

TABLE VIII
MIGRANT EDUCATION
DIAGNOSTIC FREQUENCIES
"NEW ILLNESSES"
-1990-

DENTAL	
Caries	1,083
TOTAL	1,083
DISEASES OF THE EYE, EAR, NOSE, AND THROAT	
Abnormal Vision	146
Hearing Loss	61
Otitis Media	43
Conjunctivitis	30
Nosebleed	27
Cerumen (wax)	8
Serous Otitis	4
Allergies/Hayfever	3
Other EENT	88
TOTAL	410
INJURIES	
Abrasion/Bruise	158
Laceration/Puncture	75
Sprain/Strain	23
Insect/Animal Bite	17
Burn	11
Fracture	6
Oral Trauma	4
Other Injuries	51
TOTAL	345
COMMUNICABLE DISEASES	
Strept Throat/Tonsillitis	41
URI/Cough/Sore Throat	41
Pediculosis (head lice)	24
Tuberculosis/Positive PPD	22
Other Viral Syndromes	8
Giardia	2
Other Communicable Disease	13
TOTAL	151
DISEASES OF THE SKIN	
Impetigo	13
Infection/Cellulitis	11
Eczema	6
Contact Dermatitis	4
Hives	3
Other (warts, rashes, etc.)	70
TOTAL	107
NEUROLOGIC	
Headache	93
Dizziness/Fainting	4
Epilepsy/Seizure	2
TOTAL	99
GASTROINTESTINAL DISORDERS	
Abdominal Pain	59
Diarrhea/Vomiting	21
Ulcer/Gastritis	3
Other Digestive	9
TOTAL	92
NUTRITION-RELATED	
Anemia	42
Obesity	15
TOTAL	57
GENITOURINARY/GYNECOLOGIC	
Urinary Tract Infection	8
Pregnancy	5
Menstrual Problem	1
Other GU/GYN	9
TOTAL	23
OTHER	
Fever	22
Fatigue/Malaise	20
Scoliosis	19
Heart Murmur	18
Psycho-social Problems	18
Asthma	5
Chest Pain	5
Other Heart/Blood	5
Abnormal Development	5
Heart Disease	4
Arthritis/Joint Pain	3
Birth Defect	3
Child Abuse	2
Other	17
TOTAL	146

Lotus Mig Ed Disk\diagnot\p 1

Table IX summarizes the incidence of illness episodes for each broad diagnostic category, and Figure II displays the information graphically in terms of incidence of new illnesses in each diagnostic category per 100 students who received health screening. This means that during the 1990 summer program, for every 100 students, there were 60 who had dental caries, 23 with disease episodes of the eyes, ear, nose, and throat (including hearing or vision problems), 19 with injuries, etc. It should be noted that these incidence rates provide an under-representation of the actual incidence of illnesses for a number of reasons. For example, many children were not present in the area during the entire summer and had undocumented health problems during this time. Illnesses which occurred over the weekend or which prevented children from attending school may have been missed. When illnesses or abnormalities were found upon screening, screening codes were sometimes used instead of diagnostic codes for these illnesses. Similarly, coded documentation of diagnoses may have been incomplete for children with several simultaneous health problems.

Figure II also compares graphically the differences in illness episodes between the 1989 and 1990 summer programs. Note that in 1990, there was a decreased incidence of new illness episodes in most all the disease categories.

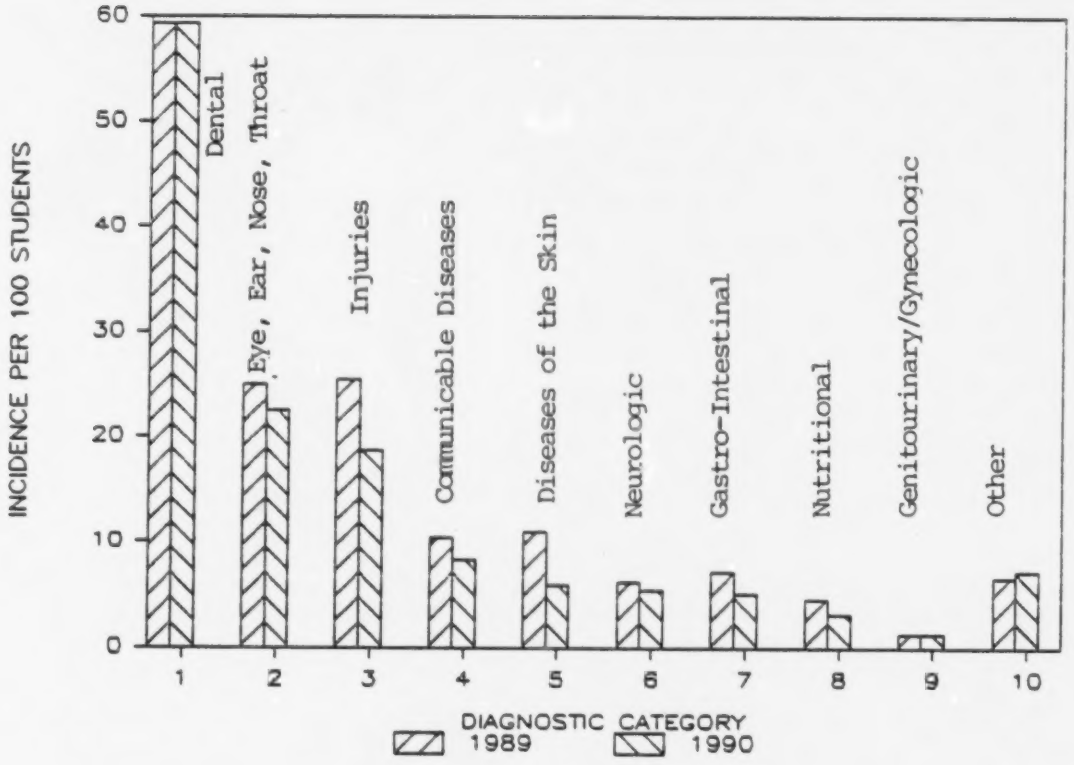
TABLE IX

NEW ILLNESS BY
DIAGNOSTIC CATEGORY
-1990-

Diagnostic Categories	Rank	Incidence	Incidence/100 Students
Dental Caries	1	1,083	59.3
Eye, Ear, Nose, and Throat	2	410	22.5
Injuries	3	341	18.7
Communicable Diseases	4	151	8.3
Diseases of the Skin	5	107	5.9
Neurologic	6	99	5.4
Gastro-Intestinal Disorders	7	92	5.0
Nutritional Disorders	8	57	3.1
Genitourinary/Gynecologic	9	23	1.3
Other	10	130	7.1

FIGURE II

INCIDENCE OF NEW ILLNESS
PER 100 STUDENTS
1989 and 1990



In order to evaluate the health status of Migrant Education children served in Colorado in 1990, analysis of this diagnostic information should be compared with similar information obtained from other school-age populations. Unfortunately, there is limited data available from other populations that is truly comparable. The best comparable data has been obtained from school health screening of children in Colorado during 1989-90 and includes results of vision screening, hearing screening, and skin test screening for tuberculosis. The criteria used by other Colorado school programs to define "abnormal" values is identical to criteria used by the CMHP. Compared with Colorado school children, 1990 Migrant Education students were found to have a higher incidence of abnormal vision and almost twice the incidence of abnormal hearing. Migrant Education students experienced a 7.4% rate of positive reactions to a PPD skin test for tuberculosis, compared with a 4.4% positive reactivity rate among Colorado school children.

As is readily apparent from Table IX and Figure II, dental disease is the major health problem for migrant children with 1,083 students (60.5%) having identifiable dental problems. Of these, 64 students (3%) were identified as requiring immediate referral for relief of pain and/or treatment of dental infection.

The following statements may be offered:

- 58% of students with identified dental problems received complete treatment;

- 19% of students with identified dental problems received partial treatment;

- there were a total of 2,462 visits to dental offices, an average of 3.0 visits per child receiving treatment;

- 10% of students with identified dental problems were not referred for treatment because their dental problems were low priority;

- 13% of students with identified dental problems were not referred due to one of the following reasons: the student had their own dentist, had poor attendance, moved before dental treatment could be initiated, or because a parent did not sign a consent form. (Students moving or lack of time was the major reasonwhy students were not referred.)

In addition to treatment offered for acute and chronic dental problems, substantial emphasis was placed on preventive dental services. During the 1990 summer school session, a total of 1,571 students received dental prophylaxis and fluoride application treatments. This represents 88% of the children receiving dental screenings. Portable dental equipment made it possible for the dental hygienist to provide the majority of this treatment within the school setting as well as enhancing the placement of dental sealants.

Dental pit and fissure sealants were provided again this year. One hygienist was hired to travel the northern part of the state with specialized equipment to place sealants. In the southern part of the state, sealants were placed by individual hygienists either at the school or in the dental offices.

Sealants are a clear or tinted resin material that is placed on the chewing surfaces of teeth. The material flows into the deep pits and fissures and hardens to prevent decay in these surfaces.

Sealant statistics from the past years are as follows:

TABLE X
PLACEMENT OF DENTAL SEALANTS
1988 - 1990

	1988	1989	1990
# Children Receiving Sealants	794	587	645
# Sealants Placed	2,613	2,121	2,802

It is significant to note that since the first full year of operation of the dental sealant program, data have been consistent. While we saw a decline in the number of children receiving sealants in 1989, 1990 data indicate an increase with over 600 children receiving over 2,500 sealants.

While in-depth data analysis is still underway, initial reaction is one of cautious celebration of program success. Properly applied, dental sealants should last at least five years, if not the life-time of the tooth. Retention rate in the program over the years has averaged 88-92%. There will always be a need for an aggressive dental sealant program because of new children entering the system each year and the erruption of additional teeth in those returning to the program.

Further analysis of the data will be conducted, but the staff anxiously awaits the results of the 1990 program to determine which method of providing sealants, a traveling hygienist as in the northern part of the state or individual hygienists as in the southern part of the state, works best. These results are important for future program planning and staffing.

SECTION
IV

HEALTH EDUCATION

In order to enhance the general health status of the migrant farmworker population it is necessary to place a high priority on teaching and assisting migrant children to develop healthful lifestyles and health practices.

In 1990, emphasis was again placed on integrating health education into classroom activities.

Health Education Curriculum

The Migrant Summer School Health Education Curriculum (MSS-HEC) was again available in all summer school programs. This curriculum provides health education units on selected topics: dental health, nutrition, safety education, personal hygiene, wellness, and sex education.

The units were developed for Level I (lower elementary), Level II (upper elementary), and Level III (grades 6-8). Each topic area and level have two to four classroom lessons developed around specific, measurable learning objectives. Each lesson contains:

1. A concept sheet for the teacher with basic background information on the subject matter.

2. Learning objectives and related bilingual activities.

3. Supplemental materials which include hand-out pamphlets, student worksheets, and related activities in other classes.

4. Evaluation instruments.

The MSS-HEC was utilized in all 12 of the summer elementary schools. All of the summer health teams reported utilizing the MSS-HEC except the Pueblo and Grand Junction Schools. Teachers in the Brighton, Fort Collins, Fort Lupton, and Longmont summer schools reported using the curriculum. Teachers in other schools, although very cooperative about letting the health team provide classroom health education, did not teach from the MSS-HEC.

Health Education Activities by Summer Health Staff

All summer health team members were given the responsibility of engaging in health education and promotion activities. These activities involved participation in classroom education, discussion groups, staff inservice training, and presentations at family nights. Table XI shows the number of health education/promotion activities offered in the classroom, at staff inservices, and at family nights. Tables XXVIII and XXIX in the appendix detail health education services provided by nurses and dental hygienists in each site.

TABLE XI

HEALTH EDUCATION/PROMOTION
ACTIVITIES
-1990-

CATEGORY	GROUP/CLASS-ROOM SESSIONS	# PERSONS ATTENDING	STAFF IN-SERVICES	# PERSONS ATTENDING	FAMILY NIGHT PRESENTATIONS	# PERSONS ATTENDING
Nursing	182	3,872	11	143	11	490
Dental	60	1,628	6	61	4	263
TOTALS	242	5,500	17	204	15	753

The number of health promotion activities conducted by the Migrant Health Teams increased from 1989. In 1989, a total of 266 sessions involving 5,471 attendees were held. In 1990, 274 sessions involving 6,457 attendees were held. It is significant to note that the number of health education sessions increased despite the cutback in staff in the Pueblo and Grand Junction schools.

Classroom education and group sessions included the topics contained in the MSS-HEC curriculum (dental health, nutrition, safety education, personal hygiene, wellness, and sex education). In addition, other health education topics addressed were: AIDS, scoliosis/posture, circulation, infection control, domestic violence prevention, baby and child care, first aid (choking, poisons, bleeding, broken bones/strain, heat exhausion, burns), health screening preparation, roles of dental providers, refusal skills, drugs, teenage pregnancy, career ed, suicide prevention, alcohol/smoking, mental health, healthy snacks, oral hygiene, environmental safety (irrigation ditches, etc.), healthy heart, "muscles to music" (exercise), reading thermometers, car safety, pesticides, self esteem, decision making, fires, accidents, and traffic safety. Methods of instruction included lecture, audiovisuals, puppet shows, and health games.

Family night presentation topics included dental care, family planning, high blood pressure, tuberculosis, how to take a temperature, substance use/abuse, and how to communicate better with children. The topics were presented in the form of group presentations, skits, puppet shows, visual displays, handouts, and one on one counseling.

Staff inservice topics included information on summer health services and screening, tuberculosis and PPD testing, and health education methods.

SECTION
V

FINANCIAL RESOURCES

In order to deploy a comprehensive health program for the 1,826 students enrolled in the 13 Migrant Education summer schools, it was necessary to carefully coordinate a variety of financial resources. The following table reflects the financial requirements and sources of revenue for the Migrant Education Health Program.

TABLE XII

FINANCIAL REQUIREMENTS AND
SOURCES OF REVENUE
MIGRANT EDUCATION
HEALTH PROGRAM
-1990-

	Total Revenue Required	Sources of Revenue			
		Colorado Migrant Health Program	Maternal Child Health Grant	*Other	Colo. Dept. of Educ.
Personnel	$137,994	$20,180	$31,795	$ 33,700	$ 52,319
Travel	5,306	2,929	0	0	2,377
Operating (recruitment, printing, key punch, etc.)	8,130	8,130	0	0	0
Orientation	9,135	6,135			3,000
Supplies	14,031	12,722			1,309
Treatment	208,649	1,350	27,670	139,192	40,437
Total Direct Costs	383,245	51,446	59,465	172,892	99,442
Indirect Costs	7,863	7,305	0	0	558
GRAND TOTAL	$391,108	$58,751	$59,465	$172,892	$100,000
	(100%)	(15.0%)	(15.2%)	(44.2%)	(25.6%)

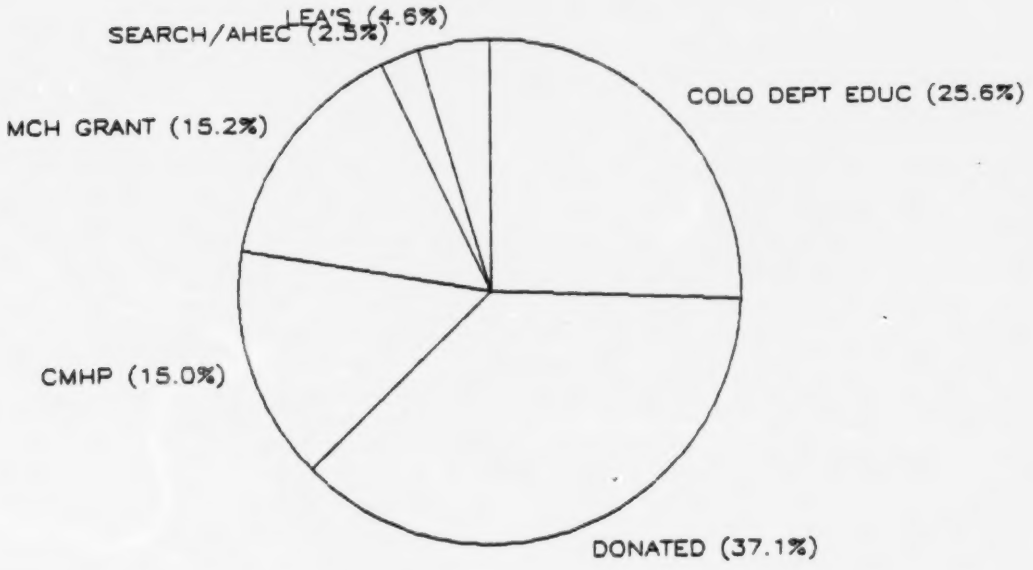
*Other sources include:

1. SEARCH/AHEC	$ 9,700
2. Donated Services	145,192
3. LEA Contribution	18,000
	$ 172,892

The percentage of funds received from all the revenue sources is depicted graphically in the following figure:

FIGURE III

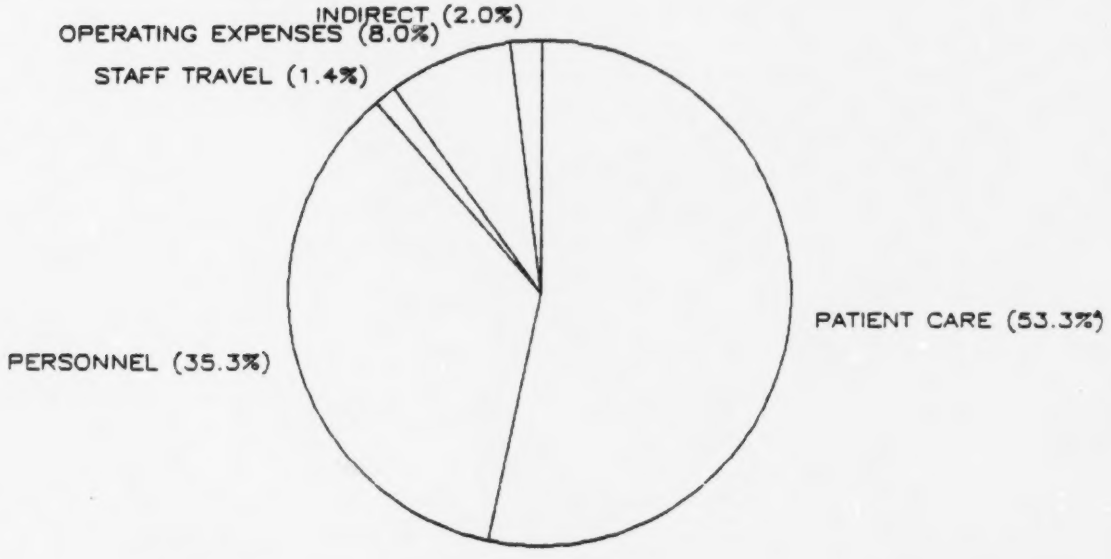
SOURCES OF REVENUE
MIGRANT EDUCATION HEALTH PROGRAM
-1990-



Allocation of all resources is depicted in the following figure:

FIGURE IV

ALLOCATION OF RESOURCES
MIGRANT EDUCATION HEALTH PROGRAM
-1990-



The specific contribution of the Migrant Education Program to the 1990 program effort is displayed in Table XIII and is depicted graphically in Figure V.

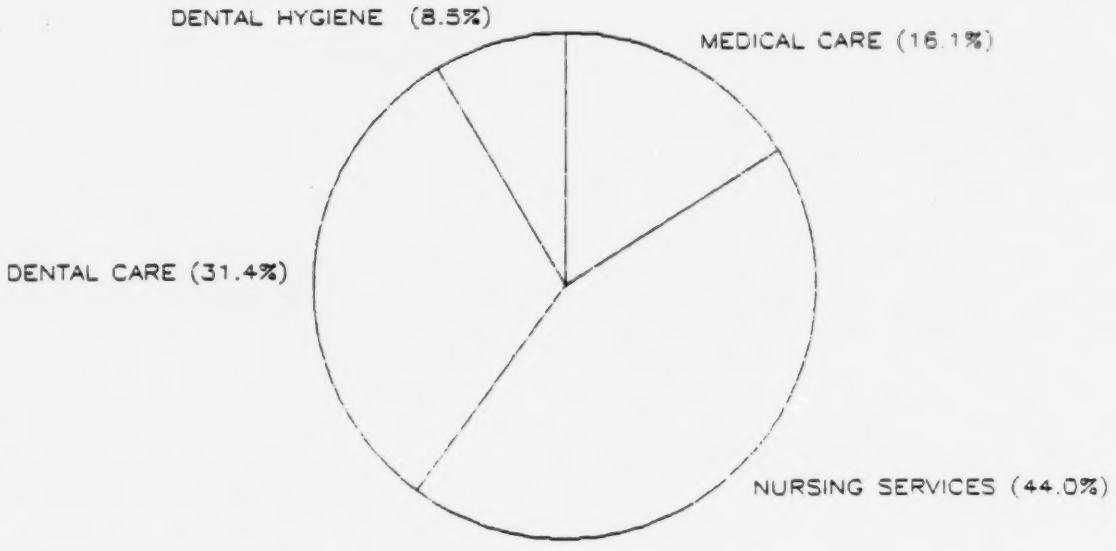
TABLE XIII

MIGRANT EDUCATION CONTRIBUTION
ALLOCATION BY SERVICE CATEGORY
- 1990 -

COST CATEGORY	AMOUNT ALLOCATED	PERCENT OF MIGRANT EDUCATION BUDGET
Medical Care	$ 16,089	16.1 %
Nursing Services	43,959	44.0
Dental Care	31,413	31.4
Dental Hygiene Services	8,539	8.5
TOTAL	$ 100,000	100 %

FIGURE V

MIGRANT EDUCATION
BUDGET ALLOCATION
BY SERVICE CATEGORY
-1990-



NOTES:

"Medical Care" includes reimbursement to local physicians, clinics, laboratories and others for medical treatment and services. It also includes medications and associated indirect costs.

"Nursing Services" includes nursing salaries, nursing students' stipends, 1/2 of the health education supply costs, nursing/medical supplies, nurses' travel, and associated indirect costs.

"Dental Care" includes dental treatment, dental students' stipends, and associated indirect costs.

"Dental Hygiene Services" includes dental hygienists' salaries, 1/2 of the health education supply costs, dental supplies, dental hygienists' travel, and associated indirect costs.

It is significant to note that although services were offered to Migrant Education Students at a cost to the Department of Education of $100,000, the total value of services offered far exceeded this amount. This is due to contributions from other sources of revenue and the cost-effective mechanisms which have been developed over the past several years. For example, major savings are gained in the Medical Cost category from the following sources:

- Several private physicians and local medical practices offer reduced rates for migrant children enrolled in the Migrant Education Program;
- Plan de Salud del Valle, Sunrise Community Health Center, and Valley Wide Health Services offer medical services to migrant students at minimal cost per patient visit. In addition, providers from Plan de Salud and Valley Wide made routine visits to the schools to provide medical services on site;
- Local pharmacists have agreed to offer services in accordance with MAC (maximum allowable costs) guidelines;
- Local health departments offer a multitude of services at minimal or no cost (e.g. immunizations).

In addition, the dental component offers a number of tangible examples of cost-effectiveness:

- When dental services are provided by a dental student under the direct supervision of local dentists, the cost to the program is only 1/3 to 1/2 the usual and customary charge;
- When dental services are provided at the Mesa County Health Department, there is no charge beyond the monthly stipend paid to the dental graduate who staffs the clinic;
- Both Plan de Salud del Valle and Sunrise Community Health Center provide comprehensive dental services to migrant students in Adams, Weld and Boulder Counties in return for minimal payments.

- Dental prophylaxis, topical fluoride applications, and individual students oral hygiene instruction are provided by dental hygienists in the migrant school with portable equipment. A total of 1,571 students received cleaning and fluoride services in 1990 (88% of all children screened). These services cost approximately $30.00 per patient in the private sector for a total cost of $47,130. The total cost to the Colorado Department of Education for dental hygienists in 1990 was $5,521, a cost savings of $41,609.

Table XIV shows the actual value of dental treatment provided and the actual amount paid for the treatment.

TABLE XIV

DENTAL TREATMENT COSTS
VALUE OF TREATMENT, EXPENDITURE BY SOURCE
- 1990 -

SITE	ACTUAL VALUE OF TREATMENT PROVIDED	ACTUAL AMOUNT PAID FOR TREATMENT	AMOUNT PAID BY MIGRANT EDUC. FUNDS	AMOUNT PAID BY CMHP OR MCH FUNDS
Brighton	$ 26,003	$ 2,220	$ 400	$ 1,820
Fort Lupton	32,663	1,900	400	1,500
Platteville	8,146	1,540	40	1,500
Longmont	32,007	5,167	2,691	2,476
La Salle	16,129	3,272	183	3,089
Fort Collins	1,787	748	615	133
Fort Morgan	12,676	8,183	8,183	0
Lamar	10,321	8,080	5,259	2,821
Rocky Ford	7,638	4,715	928	3,787
Pueblo	5,681	3,715	2,015	1,700
Alamosa	13,367	7,101	375	6,726
Grand Junction	6,659	620	0	620
Olathe	8,012	4,636	3,429	1,207
Burlington	725	725	0	725
TOTAL:	$ 181,814	$ 52,622	$ 24,518	$ 28,104

SECTION VI

PREPARING FOR 1991

Program year 1991 will present a set of major challenges and opportunities to Colorado's Migrant Health/Migrant Education partnership.

Declining financial resources in the face of constant need, coupled with inflation, will dominate attention from both the Migrant Education and Migrant Health Programs. However, the strength of the collaborative relationship that exists between these two essential programs will help to minimize the effect of decreased funding.

In order for strategic planning to take place, it will be essential that migrant health personnel and migrant education personnel relook at their mission, goals, and objectives for meeting the health and educational needs of migrant students. Input from state migrant education consultants, local migrant education directors, recruiters, and records clerks, will assist migrant health personnel in planning health interventions for migrant students.

Targeted areas to be addressed in planning for the 1991 summer program include the following:

Students Served

In order for the Migrant Health Program to most effectively leverage resources and provide health and education services for migrant students, several factors will need to be evaluated regarding the student population:

1. Projected Number of Students - The projected number of students per school.

2. Age of Students - The addition of younger children (three and four year olds) and adolescent students affects planning strategies.

3. Eligibility - Expanding eligibility guidelines by the migrant education program means that many children who attend the summer migrant education program may not be children of migrant farmworkers (eg., beef plant workers, tortilla factory workers may now be eligible for migrant education services). Since the mission of the Colorado Migrant Health Program is directed solely at service deliery to active migrant farmworkers and their families, an analysis of the resources needed to meet the needs of other students and the possibility of leveraging financial resources to meet those needs will be evaluated.

4. Active vs Settled Out/Seasonal Migrants - The anticipated number of active vs settled out or seasonal migrant students also has an effect on planning efforts. Active migrants traditionally present with more health problems. Also, many of the active migrant farmworkers do not arrive in the area until the very end of the school program - making identification and follow up for health problems more difficult.

Restoration of Dental and Nursing Services in Pueblo and Grand Junction

As discussed in the "Highlights" section at the beginning of this report, the cut in funding from the Migrant Education Program meant decreased nursing and dental hygiene services in Grand Junction and Pueblo this past year.

It is hoped that the Migrant Education Program will be able to raise the level of financial contribution to the Migrant Education Health Program. If so, the CMHP plans on restoring dental hygiene services in the Grand Junction and Pueblo schools and increasing the hours of nursing coverage.

Health Aides/Dental Assistants

Health aides play a vital role in the delivery of health services during the summer migrant education program. They assist with screening, provide transportation, provide translation (both at the school and on home visits), and assist with other dental and nursing procedures.

Health services are significantly impaired when there are not health aides to provide these services. Nursing and dental hygiene personnel are not appropriately used if they must spend significant time transporting, trying to find a translator, doing a lot of paperwork, etc. Over the years, decreased funding levels has meant a reduction in the number of health aides available in many local summer migrant schools. Many migrant education directors have shifted some health aide responsibilities to recruiters and records clerks. During planning for the 1991 program, it will be important for migrant education staff to provide assurance that, at minimum, adequate transportation and translation services will be provided for summer health team members in all sites.

In past years, the CMHP has worked with Rocky Mountain SER to place dental assistants in some sites. It is hoped that a continued and enhanced relationship with Rocky Mountain SER can take place in 1991 to expand the utilization of dental assistants and the addition of health aides to the summer program.

High Risk Intervention Unit

As mentioned in the "Highlights" section in the beginning of this report, the Colorado Department of Education's High Risk Intervention Unit is interested in spearheading a pilot parent support group in the Weld County Area.

Staff from the High Risk Unit and Migrant Health Program have met with Weld BOCES staff and the local parent advisory group to discuss the formation of this group.

Twelve families have indicated an enthusiastic response to being a part of this group. The families are interested in a support group where they can discuss such issues as: strengthening their family unit (including communication within the family), identifying and accessing local community resources (health services, social services agencies, educational services, etc.), and communicating information to active migrant families when they come into the area during the summer months.

It is anticipated that this parent group will begin in January or February, 1991.

APPENDIX

COMPARATIVE STATISTICS BY SCHOOL SITE -1990-

The following section is composed of various tables which outline by school site the incidence and follow-up of specific medical and dental problems. These tables are presented to provide supporting data for the summary statistics which appear in the body of this report. This information may also be utilized in planning efforts directed toward maintaining and enhancing current efforts.

Examination of the tables reveals variations from site to site. A number of factors can contribute to these variations, for example, the enrollment of a large number of active versus recent settling-out farmworkers may increase the incidence of health related problems since the children may not receive ongoing care.

TABLE XV

TUBERCULOSIS TESTING (PPD) - RESULTS AND FOLLOW-UP
- 1990 -

	# SCREENED	ABNORMALS IDENTIFIED NUMBER	ABNORMALS IDENTIFIED PERCENTAGE	ABNORMALS FOLLOWED-UP NUMBER	ABNORMALS FOLLOWED-UP PERCENTAGE
Brighton Day School	26	4	15.4 %	4	100 %
Brighton Night School	5	1	20.0	1	100
Fort Lupton	24	0	0	NA	NA
LaSalle	30	0	0	NA	NA
Platteville	29	2	6.9	2	100
Longmont	20	1	5.0	1	100
Fort Collins	11	1	9.1	1	100
Fort Morgan	36	1	2.8	1	100
Lamar	24	1	4.2	1	100
Rocky Ford	12	0	0	NA	NA
Pueblo	0	NA	NA	NA	NA
Alamosa Day School	0	NA	NA	NA	NA
Alamosa Night School	0	NA	NA	NA	NA
Grand Junction	0	NA	NA	NA	NA
Olathe	40	8	20.0	8	100
TOTAL:	257	19	7.4 %	19	100 %

TABLE XVI

IMMUNIZATIONS
- 1990 -

SITE	IMMUNIZATION STATUS ASSESSED	# CHILDREN COMPLETE OR PROV. COMPLETE	# CHILDREN IMMUNIZED	TOTAL # OF IMMUNIZATIONS GIVEN	# CHILDREN WITH RECORDS NOT AVAILABLE	# CHILDREN NEEDING IMMUNIZATIONS BUT DID NOT RECEIVE *
Brighton Day School	46	15	29	40	7	2
Brighton Night School	16	10	5	14	5	1
Fort Lupton	198	168	15	33	38	15
La Salle	70	48	15	28	33	7
Platteville	113	106	4	4	16	3
Longmont	144	131	10	21	3	3
Fort Collins	29	23	3	5	1	3
Fort Morgan	81	62	15	39	14	4
Lamar	45	32	11	20	8	2
Rocky Ford	60	45	15	27	3	0
Pueblo	70	64	6	17	0	0
Alamosa Day School	100	91	5	7	51	4
Alamosa Night School	17	14	2	2	11	1
Grand Junction	51	47	3	8	1	1
Olathe	76	23	45	104	18	8
TOTAL:	1,116	879	183	369	209	54

* Consent form not signed, child moved or left school.

TABLE XVII

VISION PROBLEMS - INCIDENCE/FOLLOW-UP
- 1990 -

SITE	# SCREENED	ABNORMALS IDENTIFIED		ABNORMALS FOLLOWED-UP*	
		NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Brighton Day School	165	25	15.2 %	11	44.0 %
Brighton Night School	16	2	33.3	1	50.0
Fort Lupton	231	18	7.8	9	50.0
La Salle	234	6	2.6	6	100
Platteville	129	11	8.5	7	63.6
Longmont	153	9	5.9	7	77.8
Fort Collins	57	6	10.5	6	100
Fort Morgan	109	17	15.6	17	100
Lamar	107	7	6.5	7	100
Rocky Ford	152	9	5.9	4	44.4
Pueblo	82	8	9.8	6	75.0
Alamosa Day School	205	11	5.4	9	81.8
Alamosa Night School	47	8	17.0	6	75.0
Grand Junction	52	2	3.8	2	100
Olathe	73	8	11.0	8	100
TOTAL:	1,812	147	8.1 %	106	72.1%

* Outcomes of follow-up for abnormals:
(This is the follow up done by the migrant education nurse. Migrant education staff provided needed follow up for 30 status 3 students.)
Received new glasses: 81 students
Broken glass frames repaired: 4 students
Referred to optometrist/opthalmologist, but didn't need glasses: 18 students
Refused to wear glasses (including those who already had glasses): 2 students
Currently undergoing treatment for eye disorder/problem: 1 students

TABLE XVIII

HEARING PROBLEMS - INCIDENCE/FOLLOW-UP
- 1990 -

SITE	# SCREENED	ABNORMALS IDENTIFIED		ABNORMALS FOLLOWED-UP*	
		NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Brighton Day School	165	16	9.7 %	16	100 %
Brighton Night School	16	8	50.0	8	100
Fort Lupton	231	7	3.0	5	71.4
La Salle	234	4	1.7	3	75.0
Platteville	129	3	2.3	2	66.7
Longmont	153	4	2.6	4	100
Fort Collins	57	7	12.3	7	100
Fort Morgan	107	1	0.9	1	100
Lamar	107	3	2.8	2	66.7
Rocky Ford	152	5	3.3	5	100
Pueblo	82	0	NA	NA	NA
Alamosa Day School	205	12	5.9	10	83.3
Alamosa Night School	47	1	2.1	1	100
Grand Junction	52	2	3.8	2	100
Olathe	73	1	1.4	1	100
TOTAL:	1,810	74	4.1 %	67	90.5%

* Outcomes of follow-up for abnormals:
Referrals to Handicapped Children's Program (tubes, other surgery or intervention): 11 students
Mild hearing loss identified, no intervention needed: 6 students
Hearing loss identified - follow-up and retest in one year: 6 students
Otitis media: 8 students
Wax: 2 students
Currently undergoing treatment for hearing problem: 6 students
Normal hearing: 28 students

TABLE XIX

SCOLIOSIS - INCIDENCE FOLLOW-UP
- 1990 -

SITE	# SCREENED	ABNORMALS IDENTIFIED		ABNORMALS FOLLOWED-UP*	
		NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Brighton Day School	15	2	13.3 %	2	100 %
Brighton Night School	0	NA	NA	NA	NA
Fort Lupton	44	4	9.1	4	100
La Salle	38	0	0	NA	NA
Platteville	97	0	0	NA	NA
Longmont	58	0	0	NA	NA
Fort Collins	12	0	0	NA	NA
Fort Morgan	10	1	10.0	1	100
Lamar	8	1	12.5	1	100
Rocky Ford	50	6	12.0	6	100
Pueblo	5	0	0	NA	NA
Alamosa Day School	10	0	0	NA	NA
Alamosa Night School	8	1	12.5	1	100
Grand Junction	16	0	0	NA	NA
Olathe	22	4	18.2	4	100
TOTAL:	393	19	4.8 %	19	100 %

* Outcomes of following-up for abnormals:

Scoliosis confirmed: 9
No scoliosis detected: 10

TABLE XX
BELOW NORMAL HEMATOCRIT - INCIDENCE/FOLLOW-UP
- 1990 -

SITE	# SCREENED	ANEMIA IDENTIFIED		ANEMIA FOLLOWED-UP	
		NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Brighton Day School	165	1	0.6 %	1	100 %
Brighton Night School	16	0	0	NA	NA
Fort Lupton	230	5	2.2	5	100
La Salle	234	3	1.3	3	100
Platteville	128	6	4.7	6	100
Longmont	145	2	1.4	2	100
Fort Collins	54	1	1.9	1	100
Fort Morgan	108	3	2.8	3	100
Lamar	106	4	3.8	4	100
Rocky Ford	150	10	6.7	10	100
Pueblo	80	3	3.8	3	100
Alamosa Day School	205	3	1.5	3	100
Alamosa Night School	47	0	0	NA	NA
Grand Junction	52	0	0	NA	NA
Olathe	73	0	0	NA	NA
TOTAL:	1,793	41	2.3 %	41	100 %

TABLE XXI
DENTAL PROBLEMS - INCIDENCE/FOLLOW-UP
- 1990 -

SITE	# SCREENED	ABNORMALS IDENTIFIED		ABNORMALS FOLLOWED-UP/ TREATMENT PROVIDED	
		NUMBER	PERCENT	NUMBER	PERCENT
Brighton	175	110	63 %	89	81 %
Fort Lupton	239	144	60	129	90
La Salle	236	129	55	87	67
Platteville	128	89	69	50	56
Longmont	148	108	73	107	99
Fort Collins	54	19	35	14	74
Fort Morgan	102	71	70	65	92
Lamar	109	60	55	38	63
Rocky Ford	147	88	60	38	43
Pueblo	83	35	42	12	34
Alamosa	248	151	61	125	83
Grand Junction	46	38	83	37	97
Olathe	74	41	55	38	93
TOTAL:	1,789	1,083	60 %	829	76 %

TABLE XXII
DESCRIPTION OF DENTAL FOLLOW-UP NEEDED
- 1990 -

SITE	# SCREENED	NEED ROUTINE DENT. CARE		NEED EMERGENCY DENT. CARE	
		NUMBER	PERCENT	NUMBER	PERCENT
Brighton	175	107	61 %	3	2 %
Fort Lupton	239	139	58	5	2
La Salle	236	117	50	12	5
Platteville	128	82	64	7	5
Longmont	148	106	72	2	1
Fort Collins	54	19	35	0	0
Fort Morgan	102	69	68	2	2
Lamar	109	52	48	8	7
Rocky Ford	147	86	59	2	1
Pueblo	83	33	40	2	2
Alamosa	248	136	55	15	7
Grand Junction	46	35	76	3	6
Olathe	74	38	51	3	4
TOTAL:	1,789	1,019	57 %	64	3 %

TABLE XXIII
DENTAL FOLLOW-UP - STATUS OF TREATMENT/REASONS FOR NO TREATMENT
- 1990 -

SITE	# CHILDREN NEED. CARE	STATUS OF DENT. TREAT. RECEIVED		REASON WHY ABNORMAL DID NOT RECEIVE TREATMENT				
		COMPLETE CARE	PARTIAL CARE	NOT REFER. (LOW PRIORITY)	NO CONSENT FORM OR PARENTS REF.	REFERRED BUT MOVED/ NO TIME	POOR ATTENDANCE/ DROPPED OUT	MEDICAID/ OWN DDS
Brighton	110	72	17	12	0	9	0	0
Fort Lupton	144	98	31	0	6	4	5	0
La Salle	129	47	40	29	5	7	1	0
Platteville	89	12	38	24	0	14	1	0
Longmont	108	99	8	0	0	1	0	0
Fort Collins	19	12	2	3	0	0	2	0
Fort Morgan	71	55	10	0	2	4	0	0
Lamar	60	35	3	7	0	14	1	0
Rocky Ford	88	22	16	17	0	31	2	0
Pueblo	35	6	6	13	0	8	2	0
Alamosa	151	118	7	6	1	10	9	0
Grand Junction	38	16	21	0	0	0	1	0
Olathe	41	36	2	1	0	1	1	0
TOTAL:	1,083	628	201	112	14	103	25	0

TABLE XXIV
TYPE AND NUMBER OF DENTAL TREATMENT SERVICES IN DENTAL OFFICES
- 1990 -

SITE	DIAG.	PREVENTIVE	RESTORED SURFACES	CROWNS/SP. MAINTAINER	ENDO.	ORAL SURGERY	SEALANTS	TOTAL SERVICE
Brighton	770	0	421	8	24	22	258	1,503
Fort Lupton	1,075	0	481	10	32	30	292	1,920
La Salle	314	0	352	23	25	22	9	745
Platteville	176	0	153	0	8	8	91	436
Longmont	700	0	575	8	19	39	22	1,363
Fort Collins	4	0	43	6	4	2	0	59
Fort Morgan	220	1	386	1	2	25	33	668
Lamar	136	3	155	10	8	13	65	390
Rocky Ford	107	3	62	5	12	24	289	502
Pueblo	135	72	63	20	18	9	31	348
Alamosa	379	1	424	17	10	28	4	863
Grand Junction	117	0	238	2	4	14	77	452
Olathe	107	0	197	20	15	29	177	545
Burlington	13	1	8	1	3	2	0	28
TOTAL:	4,253	81	3,558	131	184	267	1,348	9,822

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TABLE XXV
COST* OF DENTAL SERVICES PROVIDED IN DENTAL OFFICES BY TYPE
- 1990 -

SITE	DIAG.	PREV.	RESTORED SURFACES	CROWN/SP. MAINT.	ENDO.	ORAL SURG.	SEALANTS	TOTAL
Brighton	$ 100	$ 0	$1,820	$ 100	$ 100	$ 100	$ 0	$ 2,220
Ft. Lupton	100	0	1,500	100	100	100	0	1,900
La Salle	975	0	1,609	279	228	135	46	3,272
Platteville	0	0	1,200	200	100	40	0	1,540
Longmont	891	0	3,858	128	130	160	0	5,167
Ft. Collins	17	0	469	165	60	37	0	748
Ft. Morgan	855	20	6,463	120	45	422	258	8,183
Lamar	1,020	46	4,707	690	571	128	918	8,080
Rocky Ford	542	36	1,117	295	789	518	1,418	4,715
Pueblo	445	302	886	1,101	763	155	63	3,713
Alamosa	1,332	25	4,747	482	210	285	20	7,101
Grd. Junct.	0	0	0	0	620	0	0	620
Olathe	468	0	1,993	769	377	337	692	4,636
Burlington	145	21	248	100	164	47	0	725
TOTAL:	$6,890	$ 450	$30,617	$4,529	$4,257	$2,464	$ 3,415	$52,622

* Includes cost from all sources except medicaid or private insurance.

TABLE XXVI
PREVENTIVE DENTAL SERVICES BY DENTAL HYGIENISTS
Prophylaxis, Topical Fluoride Application, Dental Counseling
- 1990 -

SITE	NUMBER SCREENED	RECEIVING PREVENTIVE SERVICES	
		NUMBER	PERCENT
Brighton	175	165	94 %
Fort Lupton	239	232	97
La Salle	236	217	92
Platteville	128	98	76
Longmont	148	146	99
Fort Collins	54	46	85
Fort Morgan	102	71	70
Lamar	109	98	90
Rocky Ford	147	142	97
Pueblo	83	36 *	44
Alamosa	248	203	82
Grand Junction	46	45	98
Olathe	74	72	97
TOTAL:	1,789	1,571	88 %

* Done at Pueblo Community College

TABLE XXVII
GROUP HEALTH EDUCATION SERVICES BY NURSES
- 1990 -

SITE	FAMILY NIGHT PRESENTATIONS # SESSIONS	# PEOPLE	CLASSROOM EDUCATION # SESSIONS	# PEOPLE	STAFF IN-SERVICE # SESSIONS	# PEOPLE
Brighton	2	200	25	573	1	5
Fort Lupton	1	30	8	222	1	28
Platteville	1	150	27	452	1	6
La Salle	0	0	17	322	1	14
Longmont	0	0	10	193	1	22
Fort Collins	0	0	16	282	1	10
Fort Morgan	1	18	17	306	1	10
Lamar	0	0	4	67	1	9
Rocky Ford	0	0	27	533	1	17
Pueblo	0	0	0	0	0	0
Alamosa	2	36	23	735	1	12
Grand Junction	0	0	0	0	0	0
Olathe	4	56	8	187	1	10
TOTAL:	11	490	182	3,872	11	143

TABLE XXVIII
GROUP HEALTH EDUCATION SERVICES BY DENTAL HYGIENISTS/DENTAL STUDENTS
- 1990 -

SITE	FAMILY NIGHT PRESENTATIONS		CLASSROOM EDUCATION		STAFF IN-SERVICES	
	# SESSIONS	# PEOPLE	# SESSIONS	# PEOPLE	# SESSIONS	# PEOPLE
Brighton	2	200	5	104	0	0
Fort Lupton	0	0	4	338	1	28
Platteville	1	45	0	0	0	0
La Salle	0	0	19	320	0	0
Longmont	0	0	6	114	0	0
Fort Collins	0	0	8	275	0	0
Fort Morgan	0	0	4	106	0	0
Lamar	1	18	5	82	2	4
Rocky Ford	0	0	5	65	1	17
Pueblo	0	0	0	0	0	0
Alamosa	0	0	1	148	0	0
Grand Junction	0	0	0	0	0	0
Olathe	0	0	3	76	2	12
TOTAL:	4	263	60	1,628	6	61